



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/541,245

07/01/2005

Chiyo Kusubayashi

018760-023

5812

21839 7590 11/13/2009
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

KAPLAN, HAL IRA

ART UNIT

PAPER NUMBER

2836

NOTIFICATION DATE

DELIVERY MODE

11/13/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No. 10/541,245	Applicant(s) KUSUBAYASHI, CHIYO	
	Examiner Hal I. Kaplan	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/26/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 23 is objected to because of the following informalities: Claim 23, line 3, "second type of dc power" should be "second dc power". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US patent of Nomura (6,388,904) in view of the US patent of Dodson, III (6,958,552).

As to claims 23 and 29, Nomura discloses a vehicle power supplying system (see Figure 1). An electric power inverter (6,21,58) converts a first dc power received through an overhead wire (1) to a second DC power (at output of rectifier 68), and

Art Unit: 2836

supplying the second DC power to a DC load (9,70); an electric power supplier (22,59,32,69) for converting the first DC power (power supplied from overhead wire 1) to a third DC power; and a controller (46) for receiving power from the inverter and supplier, and controlling the inverter (21,58), wherein the electric power inverter (6,21,58) comprises a switch (6) that controls current flowing through the overhead wire (1), and controls the conversion of the first DC power to the second DC power based on the control signals output from the controller (see column 1, lines 19-22; column 2, lines 54-67; column 3, lines 4-9, 15-19, 36-42, and 51-59; and Figure 1). Nomura does not disclose the claimed power-outputting unit.

Dodson discloses a power-outputting unit (118,128) comprising a butt-jointed diode composed of a first diode (118) and a second diode (128) arranged in a “butt-jointed” configuration for outputting the higher of two input DC powers (see column 2, line 47 - column 3, line 3 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used a power-outputting unit comprising butt-jointed diode at the converging point of the parallel inverter paths of Nomura, in order to prevent backflow of power into the inverter and electric power supplier.

As to claims 24, 26, 28, 30, 32, and 34, the electric power inverter (21,58) of Nomura also converts (via inverter 9) the first DC power into AC power to an AC load (13).

As to claim 25, since the electric power inverter and electric power supplier are connected in parallel at their outputs, the third dc power will be supplied to the controller

when the system starts to operate, and the second dc power will be supplied to the controller after it has been outputted from the inverter.

As to claim 27, in the system of Nomura in view of Tanaka, the higher of the outputted voltages of the electric power inverter (second DC power) and the electric power supplier (third DC power) will be supplied to the controller (46).

As to claims 31 and 33. Nomura discloses a first protector (3), wherein the first dc power is supplied to the electric power inverter (21,58) and supplier (59,32,69) through the first protector (3) (see column 2, lines 51-55 and Figure 1).

Response to Arguments

5. Applicant's arguments filed July 17, 2009 have been fully considered but they are not persuasive.

The Applicant states that neither Nomura nor Dodson discloses or suggests an electric power inverter that includes a switch that controls current through an overhead wire and the conversion of the first DC power to the second DC power based on the control signals output from the controller. The Examiner respectfully disagrees. For examination purposes, lines 12-14 of claim 23 have been interpreted to mean the inverter comprises a switch which controls current flowing through the overhead wire, and the inverter, not the switch, controls the conversion of the first DC power to the second DC power based on the control signals output from the controller. The Applicant's Figure 1 illustrates a switch (8), which controls the current flowing through the overhead wire, and an inverter and rectifier which it is assumed contain transistor switches which control the conversion of the first DC power to the second DC power

Art Unit: 2836

based on the control signals output from the controller (14). The Applicant's specification also states that the switch (8) controls the current flowing through the overhead wire, and the inverter controls the conversion of the first DC power to the second DC power (see page 8, lines 17-20 and 23-25). Similarly, Nomura discloses a switch (6) which controls the current flowing through an overhead wire. Nomura's switch (6) is being interpreted as part of the inverter. Nomura's inverter comprises transistors 23-30 which are controlled by pulse width modulation controller 46 via gate drives 48 and 49.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is (571)272-8587. The examiner can normally be reached on M-F 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared Fureman can be reached on 571-272-2391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

hik

/Jared J. Fureman/
Supervisory Patent Examiner, Art
Unit 2836

November 6, 2009